

WHAT IS CLAIMED IS:

1. A method of manufacturing a contoured, consolidated cellulosic article, having a variable basis weight, comprising the steps of:
  - 2 forming a loose mat of cellulosic material and a binder resin, the mat having a top surface and a bottom surface;
  - 4 machining at least one of the top and bottom surfaces to have a pattern;
  - 6 and
  - 8 consolidating the mat between a top platen and a bottom platen, the top and bottom platens having contours complementary to contours in the mat top surface and bottom surface, respectively.
2. The method of claim 1, wherein the forming step is performed by sprinkling cellulosic fiber and a binder resin onto a moving conveyor belt and removing variations in mat height with a rotary tool.
3. The method of claim 2, further including the step of applying suction through the conveyor belt to hold the mat to the belt.
2. The method of claim 3, further including the step of pressing the mat between first and second platens after the forming step and prior to the machining step.

- 2           5. The method of claim 4, wherein the pressing step is performed at a  
pressure within the range of about 10 to about 30 pounds per cubic foot.
- 4           6. The method of claim 1, wherein the machining step is performed along  
one of a longitudinal and lateral axis of the mat.
- 2           7. The method of claim 1, wherein the machining step is performed along  
both a longitudinal and a lateral axis of the mat.
- 2           8. The method of claim 6, wherein the machining step is performed using  
a scalping roller.
- 2           9. The method of claim 7, wherein the machining step is performed using  
a computer numerically controlled router.
- 2           10. The method of claim 1, wherein the consolidating step is performed  
under heat and pressure.
- 2           11. The method of claim 1, further including the steps of gathering the  
cellulosic material during the machining step, and reusing the gathered cellulosic  
material in subsequent iterations of the forming step.
- 2           12. A consolidated cellulosic article formed according to the method of  
claim 1.

13. A method of manufacturing a consolidated cellulosic article,  
2 comprising the steps of:  
4           depositing cellulosic fiber and a binding agent onto a moving conveyor  
6           belt to form a mat, the conveyor belt being perforated;  
8           applying suction through the conveyor belt, the applied suction holding  
the mat to the belt;  
10          scalping a top surface of the mat, the scalping step creating a mat of  
uniform height;  
12          pressing the mat between upper and lower platens at a first pressure;  
14          machining a pattern into the top surface by removing cellulosic  
material in a desired pattern;  
16          gathering the removed cellulosic material; and  
18          compressing the mat between third and fourth platens, the third and  
fourth platens having contours complementary to the top and bottom mat surfaces,  
respectively.

14. The method of claim 13, wherein the pressing step is performed at a  
2 pressure within the range of about 10 to about 30 pounds per cubic foot.

15. The method of claim 13, wherein the machining step is performed  
2 along one of a longitudinal and lateral axis of the mat.

16. The method of claim 15, wherein the machining step is performed  
2 using a scalping roller.

17. The method of claim 13, wherein the machining step is performed

2 along both a longitudinal and a lateral axis of the mat.

18. The method of claim 17, wherein the machining step is performed

2 using a computer numerically controlled router.

19. The method of claim 13, wherein the compressing step is performed

2 under heat and pressure.

20. The method of claim 13, further including the step of reusing the

removed cellulosic material in subsequent iterations of the depositing step.

21. A consolidated cellulosic article manufactured according to the method

of claim 13.

22. A method of manufacturing a contoured, consolidated cellulosic article

2 with variable basis weight, comprising:

forming a loose mat of cellulosic material and a binder resin, the mat

4 having a top surface and bottom surface;

pre-pressing the loose mat to a first density and caliper;

machining at least one of the top and bottom surfaces to have a pattern;

and

consolidating the mat between a top platen and a bottom platen, the top

and bottom platens having a contours complementary to mat top and bottom surfaces,

respectively, the consolidating step compressing the mat to a second density and

caliper, the second density being greater than the first density.